## Dr. Jeff Corbett, Stanford Linear Accelerator Center

***Bio***

Dr. Corbett received a Bachelor of Science in EECS at UC Berkeley in 1983 and a PhD in Fusion Engineering at UCLA in 1989. He then joined Stanford Linear Accelerator Center to work of electron/positron storage rings for collider physics synchrotron radiation research. At SLAC he has worked on accelerator design and beam control, visible light diagnostics and photocathode research. Dr. Corbett has served in the role of Deputy Laser Safety Officer at SLAC since 2012.

***Abstract***

**A PLC-Based Laser Safety System for the ASTS Photocathode Laboratory (Jeff Corbett, Perry Anthony and Mike Woods)**

The Accelerator System Test Assembly at SLAC presently houses the back-up photocathode gun for the LCLS XFEL. In order to carry out an experimental cathode characterization program, the adjacent room was converted into a laser bay to house a Ti:Sapphire oscillator and 5mJ regen amplifier. Potential Ti:Sapphire exposure hazards include 760nm, 380nm, 253nm and the pump beam at 527nm. A parallel LCLS diagnostics program generates broadband continuum light across the visible spectrum. Both the laser bay and photocathode gun vault were outfitted with PLC-based Laser Safety Systems to monitor and control interlock logic. The PLC interface features user-badge access control and a touch panel to view system status, set operational modes and control shutter states. In this paper we review salient features of the laser safety systems, hazard mitigation measures and best practices within the laboratory environment.